



American National Standard/American Dental Association  
**Specification No. 37**

# Dental Abrasive Powders

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**ADA** American  
Dental  
Association®  
Council on  
Scientific Affairs

1986

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ANSI/ADA Specification No. 37 – 1986  
Reaffirmed by ANSI: October 2010

**AMERICAN NATIONAL STANDARD AMERICAN DENTAL ASSOCIATION SPECIFICATION NO. 37 FOR  
DENTAL ABRASIVE POWDERS**

The Council on Scientific Affairs of the American Dental Association has approved revised American Dental Association Specification No. 37 for Dental Abrasive Powders. This and other specifications for dental materials, instruments and equipment are being formulated by working groups of the ADA Standards Committee on Dental Products (formerly Accredited Standards Committee MD156 for Dental Materials, Instruments and Equipment). The Committee has representation from all interests in the United States in the standardization of materials, instruments and equipment in dentistry. The Council has adopted the specifications, showing professional recognition of their usefulness in dentistry, and has forwarded them to the American National Standards Institute with a recommendation that the specifications be approved as American National Standards. The American National Standards Institute granted approval of ADA Specification No. 37 as an American National Standard May 15, 1986. ANSI/ADA Specification No. 37 was reaffirmed by ANSI in 2001.

## AMERICAN NATIONAL STANDARD/AMERICAN DENTAL ASSOCIATION SPECIFICATION NO. 37 FOR DENTAL ABRASIVE POWDERS

### Foreword

(This foreword does not form a part of ANSI/ADA Specification No. 37 for Dental Abrasive Powders.)

For many years powered dental abrasives, particularly various types of pumice, have been extensively used by the dental profession. Major uses include both intraoral (dental prophylaxes, etc.) and extraoral (finishing of dental prostheses, etc.) procedures.

Commercially available preparations of powered dental abrasives vary considerably in their particular size distribution in order to fulfill the wide range of needs expected of such materials. Unfortunately, there is no uniformity of labeling of such preparations and a given "grade" from one supplier is typically quite different from the same "grade" provided by another supplier. This lack of uniformity presents obvious problems to both dental practitioners and dental laboratories.

Although the degree of abrasivity of a dental abrasive is an intrinsic characteristic of its physical makeup, no clinical study has yet correlated the degree of abrasivity with any destructive effect on hard and soft tissues.

The Appendix to this specification includes a test which addresses the relative abrasivity of these products but does not directly relate to the clinical application of cleaning the tooth surface. Future studies will be aimed towards the development of a test which relates more closely with the clinical application of cleaning the tooth surface.

In view of the foregoing, this specification has been developed by the Subcommittee to fulfill the following objectives.

1. To provide a uniform means of categorizing and labeling all powered dental abrasives on the basis of particle size distribution;
2. To provide a degree of assurance of the absence of gross contaminants in such preparations; and,
3. To provide at least minimal assurance of the safety of powered abrasives for intraoral use.

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DENTAL ABRASIVE POWDERS**

**1 SCOPE AND CLASSIFICATION**

**1.1 Scope**

This specification is for powered abrasive materials used in dentistry for removing stains and gross scratches from natural tooth structures and prostheses but not including materials used in laboratory blasting processes. These materials are divided into types depending on the intended manner of use and further sub-divided into classes based upon the predominant abrasive agent present in the product.

**1.2 Type and Classes**

The abrasive powders covered by this specification shall be of the following types and classes where type refers to the manner of usage while class refers to the major constituent of the powder:

Type I Dental Prophylaxis Grade Materials  
(For intra-oral use)

Class 1 Pumice and Pumic-based powder

Class 2 Quartz and Quartz-based powders as major constituents

Class 3 Zirconium Silicate and Zirconium Silicate-based powders

Class 4 Feldspar and Feldspar-based powders

Type II Dental Laboratory Grade Materials  
(For extra-oral use only)

Class 1 Pumic powders

Class 2 Quartz powders

**2 APPLICABLE SPECIFICATIONS**

**2.1 Specifications**

ASTM E-11-70 (1970) Wire Cloth Sieves for Testing Purposes. Federal Specification RR-S366ED, Sieve, Test. American National Standard Z210.1 (ASTM 380) (1974) has been used as a guide in selecting symbols, units of measurement, procedures for SI Style and Usage, and for procedures for conversion and rounding in this specification. ANSI/ADA Document No. 41 for Recommended Standard Practices for Biological Evaluation of Dental Materials contains the following procedures and acceptance criteria for dental abrasive powders (Type I only): 4.4.6 Oral LD 50 and 4.4.9 Mucus Membrane Irritation.

Copies of ANSI/ADA Specifications may be obtained from the American Dental Association, Dept. of